SEQUENCE LISTING

(1) GENERAL INFORMATION

(i) APPLICANT: BILLING-MEDEL, PATRICIA
                COHEN, MAURICE
                COLPITTS, TRACEY L.
                FRIEDMAN, PAULA N.
                GORDON, JULIAN
                GRANADOS, EDWARD N.
                HODGES, STEVEN C.
                KLASS, MICHAEL R.
                KRATOCHVIL, JON D.
                RUSSELL, JOHN C.
                SCHEFFEL, CHRISTI
                STROUPE, STEPHEN D.
                YU, HONG

(ii) TITLE OF THE INVENTION: REAGENTS AND METHODS USEFUL
        FOR DETECTING DISEASES OF THE BREAST

(iii) NUMBER OF SEQUENCES: 27

(iv) CORRESPONDENCE ADDRESS:
    (A) ADDRESSEE: Abbott Laboratories
    (B) STREET: 100 Abbott Park Road
    (C) CITY: Abbott Park
    (D) STATE: IL
    (E) COUNTRY: USA
    (F) ZIP: 60064-3500

(v) COMPUTER READABLE FORM:
    (A) MEDIUM TYPE: Diskette
    (B) COMPUTER: IBM Compatible
    (C) OPERATING SYSTEM: DOS
    (D) SOFTWARE: FastSEQ for Windows Version 2.0

(vi) CURRENT APPLICATION DATA:
    (A) APPLICATION NUMBER:
    (B) FILING DATE:
    (C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:
    (A) APPLICATION NUMBER: 08/879,354
    (B) FILING DATE: 20-JUN-1997

(viii) ATTORNEY/AGENT INFORMATION:
    (A) NAME: Becker, Cheryl L.
    (B) REGISTRATION NUMBER: 35,441
    (C) REFERENCE/DOCKET NUMBER: 6120.US.P1

(ix) TELECOMMUNICATION INFORMATION:
    (A) TELEPHONE: 847/935-1729
    (B) TELEFAX: 847/938-2623
    (C) TELEX:

(2) INFORMATION FOR SEQ ID NO:1:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 236 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

```
GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC    60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA   120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC   180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCC       236
```

    (2) INFORMATION FOR SEQ ID NO:2:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 245 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```
GGATATCACA GGGACCTGGT ACGTGAAGGC CATGGTGGTC GATAAGGACT TTCCGGAGGA    60
CAGGAGGCCC AGGAAGGTGT CCCCAGTGAA GGTGACAGCC CTGGGCGGTG GGAAGTTGGA   120
AGCCACGTTC ACCTTCATGA GGGAGGATCG GTGCATCCAG AAGAAAATCC TGATGCGGAA   180
GACGGAGGAG CCTGGCAAAT ACAGCGCCTA TGGGGGCAGG AAGCTCATGT ACCTGCAGGA   240
GCTGC                                                               245
```

    (2) INFORMATION FOR SEQ ID NO:3:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 337 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

```
GGGGGAGAAG GACTTTATTT GGAGTCAGGT GGGTGGGAGC AGGGAAGGGT CATGGCTGGA    60
GGGTAGGTCC AGGTGGTCCG GGCTCTGTGT CTGGTGGTAG GGTGGGCTCT GGAGGTGCAG   120
ACCCGGGGGC TGCCTAGTGT TCGGGAACGC AGCTTCCCGT CTGCAGGGGC GTGAAAATGT   180
CCTCCTCCGA GAGTCCCTTG CGCTGCACCA ATTTCTTAAA TTCTTCCAGG CCTCCCGGT    240
TGGTATCAGA ATTCCTACCC ACAAGCTTTC CCATGTGGAG CAGGCCCCCA TGGTGCTGGT   300
CTTTGCAGTA AAAGATGTAG TGGTCCCTCC TGGGCAG                            337
```

    (2) INFORMATION FOR SEQ ID NO:4:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 692 base pairs
     (B) TYPE: nucleic acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

```
GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC    60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA   120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC   180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCCACGT   240
```

```
TCACCTTCAT GAGGGAGGAT CGGTGCATCC AGAAGAAAAT CCTGATGCGG AAGACGGAGG    300
AGCCTGGCAA ATACAGCGCC TATGGGGGCA GGAAGCTCAT GTACCTGCAG GAGCTGCCCA    360
GGAGGGACCA CTACATCTTT TACTGCAAAG ACCAGCACCA TGGGGGCCTG CTCCACATGG    420
GAAAGCTTGT GGGTAGGAAT TCTGATACCA ACCGGGAGGC CCTGGAAGAA TTTAAGAAAT    480
TGGTGCAGCG CAAGGGACTC TCGGAGGAGG ACATTTTCAC GCCCCTGCAG ACGGGAAGCT    540
GCGTTCCCGA ACACTAGGCA GCCCCCGGGT CTGCACCTCC AGAGCCCACC CTACCACCAG    600
ACACAGAGCC CGGACCACCT GGACCTACCC TCCAGCCATG ACCCTTCCCT GCTCCCACCC    660
ACCTGACTCC AAATAAAGTC CTTCTCCCCC CA                                  692
```

        (2) INFORMATION FOR SEQ ID NO:5:

           (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 692 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: single
              (D) TOPOLOGY: linear

           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

```
GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC     60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA    120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC    180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCCACGT    240
TCACCTTCAT GAGGGAGGAT CGGTGCATCC AGAAGAAAAT CCTGATGCGG AAGACGGAGG    300
AGCCTGGCAA ATACAGCGCC TATGGGGGCA GGAAGCTCAT GTACCTGCAG GAGCTGCCCA    360
GGAGGGACCA CTACATCTTT TACTGCAAAG ACCAGCACCA TGGGGGCCTG CTCCACATGG    420
GAAAGCTTGT GGGTAGGAAT TCTGATACCA ACCGGGAGGC CCTGGAAGAA TTTAAGAAAT    480
TGGTGCAGCG CAAGGGACTC TCGGAGGAGG ACATTTTCAC GCCCCTGCAG ACGGGAAGCT    540
GCGTTCCCGA ACACTAGGCA GCCCCCGGGT CTGCACCTCC AGAGCCCACC CTACCACCAG    600
ACACAGAGCC CGGACCACCT GGACCTACCC TCCAGCCATG ACCCTTCCCT GCTCCCACCC    660
ACCTGACTCC AAATAAAGTC CTTCTCCCCC CA                                  692
```

        (2) INFORMATION FOR SEQ ID NO:6:

           (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 68 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: single
              (D) TOPOLOGY: linear

           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

```
AGCTCGGAAT TCCGAGCTTG GATCCTCTAG AGCGGCCGCC GACTAGTGAG CTCGTCGACC     60
CGGGAATT                                                             68
```

        (2) INFORMATION FOR SEQ ID NO:7:

           (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 68 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: single
              (D) TOPOLOGY: linear

           (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

```
AATTAATTCC CGGGTCGACG AGCTCACTAG TCGGCGGCCG CTCTAGAGGA TCCAAGCTCG     60
GAATTCCG                                                             68
```

        (2) INFORMATION FOR SEQ ID NO:8:

           (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 24 base pairs
              (B) TYPE: nucleic acid

        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

AGCGGATAAC AATTTCACAC AGGA   24

        (2) INFORMATION FOR SEQ ID NO:9:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TGTAAAACGA CGGCCAGT   18

        (2) INFORMATION FOR SEQ ID NO:10:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

ATCCTGATGC GGAAGACG   18

        (2) INFORMATION FOR SEQ ID NO:11:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TATCACAGGG ACCTGGTACG   20

        (2) INFORMATION FOR SEQ ID NO:12:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GCTGTATTTG CCAGGCTC   18

        (2) INFORMATION FOR SEQ ID NO:13:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

AAAATGTCCT CCTCCGAGAG   20

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 26 base pairs
   (B) TYPE: nucleic acid
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

TTTTTTTTTT TTTTTTTTTT TTTTTG   26

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 19 base pairs
   (B) TYPE: nucleic acid
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

AGTTGGAAGC CACGTTCAC   19

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 19 base pairs
   (B) TYPE: nucleic acid
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

CCCATAGGCG CTGTATTTG   19

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 19 base pairs
   (B) TYPE: nucleic acid
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

AGTTGGAAGC CACGTTCAC   19

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 24 base pairs
   (B) TYPE: nucleic acid
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

TGGTGCTGGT CTTTGCAGTA AAAG   24

    (2) INFORMATION FOR SEQ ID NO:19:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

CAAATACAGC GCCTA   15

    (2) INFORMATION FOR SEQ ID NO:20:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 23 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

CCCAGTCACG ACGTTGTAAA ACG   23

    (2) INFORMATION FOR SEQ ID NO:21:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 28 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GCGGCCGCCG TGTTCGGGAA CGCAGCTT   28

    (2) INFORMATION FOR SEQ ID NO:22:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 170 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: None

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala Leu
1   5   10   15
Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr Val Lys
            20   25   30
Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys
        35   40   45
Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly Lys Leu Glu Ala
    50   55   60

```
Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile Gln Lys Lys Ile Leu
65              70              75                      80
Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr Ser Ala Tyr Gly Gly Arg
            85              90                      95
Lys Leu Met Tyr Leu Gln Glu Leu Pro Arg Arg Asp His Tyr Ile Phe
            100             105             110
Tyr Cys Lys Asp Gln His His Gly Gly Leu Leu His Met Gly Lys Leu
        115             120                 125
Val Gly Arg Asn Ser Asp Thr Asn Arg Glu Ala Leu Glu Glu Phe Lys
    130             135             140
Lys Leu Val Gln Arg Lys Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro
145             150                 155                 160
Leu Gln Thr Gly Ser Cys Val Pro Glu His
                165             170
```

        (2) INFORMATION FOR SEQ ID NO:23:

            (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 31 amino acids
                (B) TYPE: amino acid
                (C) STRANDEDNESS: single
                (D) TOPOLOGY: linear

            (ii) MOLECULE TYPE: None

            (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

```
Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr Val Lys Ala Met Val
1               5               10                  15
Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys Val Ser
            20              25                  30
```

        (2) INFORMATION FOR SEQ ID NO:24:

            (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 28 amino acids
                (B) TYPE: amino acid
                (C) STRANDEDNESS: single
                (D) TOPOLOGY: linear

            (ii) MOLECULE TYPE: None

            (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

```
Pro Val Lys Val Thr Ala Leu Gly Gly Gly Lys Leu Glu Ala Thr Phe
1               5               10                  15
Thr Phe Met Arg Glu Asp Arg Cys Ile Gln Lys Lys
            20              25
```

        (2) INFORMATION FOR SEQ ID NO:25:

            (i) SEQUENCE CHARACTERISTICS:
                (A) LENGTH: 26 amino acids
                (B) TYPE: amino acid
                (C) STRANDEDNESS: single
                (D) TOPOLOGY: linear

            (ii) MOLECULE TYPE: None

            (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

```
Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr Ser Ala Tyr Gly
1               5               10                  15
Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu
            20              25
```

(2) INFORMATION FOR SEQ ID NO:26:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 8 amino acids
     (B) TYPE: amino acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) MOLECULE TYPE: None

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

```
Asp Tyr Lys Asp Asp Asp Asp Lys
1               5
```

      (2) INFORMATION FOR SEQ ID NO:27:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 21 amino acids
     (B) TYPE: amino acid
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) MOLECULE TYPE: None

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

```
Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Met His Thr Glu His
1               5                   10              15
His His His His His
                20
```